

side of the abdomen and a few also on the antennae. Antennal segments I, II, III, tips of IV and V, and all of VI; the cornicles, cauda, and tarsi dusky; lateral tubercles on prothorax and abdomen. Arrangement of spines and sensoria on head and antennae as shown in enlarged drawing. Segment III of antenna with 3 to 5 circular sensoria in a row on basal half (see Figure 1). Length of antennal segments: III, 0.54 mm.; IV, 0.34 mm.; V, 0.31 mm.; VI, 0.61 mm.; (base 0.15 mm. + unguis, 0.46 mm.). Cornicles nearly cylindrical, wide at bases, with flaring rim, somewhat reticulated near tips; length 0.46 mm. Cauda relatively slender, base swollen, tapering to a narrower median constriction, pointed; with about 8 hairs; length 0.32 mm.

Length of body 2 mm.

The type and 22 other alates and 22 apterae were studied and are preserved in diaphane on 15 glass microscopic slides. The type and certain paratypes are in the author's collection. Paratypes have also been presented to Professor Barr, University of Idaho, to the U. S. National Museum and to the California Academy of Sciences.

This species appears to be quite distinct from related species in this country and elsewhere.

From *Macrosiphum dirhodum* (Walker) it may be separated by the relatively shorter antennal segments, more secondary sensoria in the apterae and fewer in the alates and also by longer rostral hairs. It differs from *M. scariola* (Nevsky) (*Acyrtosiphon*) by the darker appendages and fewer sensoria in all forms and by the longer cauda.

Paratypes show considerable variation in the number of secondary sensoria in the alatae: from 11-17, and in the apterae: from 2-8. In the latter, the sensoria appear to divide into two as often shown by 3 on one side and 6 on the other.

A NEW SPECIES OF STIZOCERA FROM FLORIDA

(Coleoptera: Cerambycidae)

BY E. GORTON LINSLEY

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Gounelle has broadened and redefined *Stizocera* Serville to include a number of species which differ from the genotype in having the pronotum more or less tuberculate laterally. The following is a *Stizocera* in the sense of Gounelle.

Stizocera floridana Linsley, new species

Female: Form elongate, narrow, subcylindrical, slightly flattened above; surface polished, pale rufo-testaceous, elytra testaceous, eyes black. Head very sparsely punctate, nearly glabrous, a fine longitudinal groove between antennal tubercles; antennae extending a little more than two segments beyond apex of elytra, segments three to eight or nine finely, longitudinally carinate, three to seven or eight spinose at apex, the spines stout, prominent, diminishing gradually in length, scape 3.4 x as long as broad, a little shorter than third segment (8.5:9.5), second segment one and one-half times as long as broad, subequal in width at base and apex, sides obtusely tuberculate at middle, dorsal surface with a pair of rounded subbasal tubercles; integument almost impunctate, with a few scattered long erect hairs, especially at sides; scutellum very finely, inconspicuously pubescent, the pubescence denser along posterior margin; prosternum deeply transversely impressed at middle, convex anteriorly, intercoxal process narrow between the coxae, arcuately declivous, apex expanded and emarginate. Elytra more than three and one-half times as long as pronotum, nearly three and one-half times as long as basal width; surface sparsely, irregularly punctate on disk, more densely at sides, with scattered, suberect yellowish hairs; apices separately emarginate, bispinose, outer spine longer and more definitely spiniform.

Legs elongate, sparsely clothed with long, suberect pale hairs; femora abruptly clavate and pedunculate, intermediate pair obtusely bidentate at apex, posterior pair acutely bidentate or subspinose at apex; tibiae longitudinally carinate. Abdomen almost impunctate, with a few scattered suberect hairs; fifth sternite broadly truncate at apex. Length 13 mm., breadth 2.7 mm.

Type, female, Morco, Florida, April 17, 1912, and one paratype, female, April 15, 1912, both in the collection of the American Museum of Natural History.

This is the first species of *Stizocera* known from the United States, although five species are known from the West Indies including one each from the Cayman Islands, Jamaica, Haiti, and Puerto Rico. The present species is more closely related to the West Indian forms than to those now known from Mexico. From *insulana* (Gahan) and *caymanensis* Fisher it differs in having the tibiae carinate, from *vanzwaluwenburgi* Fisher in the elongate pronotum, short elytral spines, and from all three species in the arrangement of the dorsal pronotal callosities. *S. dozieri* Fisher and *S. poeyi* Chevr. are differently colored and otherwise distinct from *floridana*.

A SYNOPSIS OF NORTH AMERICAN ANAPHOIDEA

(Hymenoptera: Mymaridae)

BY RICHARD L. DOUTT¹*Division of Biological Control, University of California*

The mymarid genus *Anaphoidea* is probably of cosmopolitan distribution for species have been described from Europe, Africa, Australia, North America, and the West Indies. Two species have been utilized in biological control projects, and an appreciable reduction in the numbers of the eucalyptus weevil, *Gonipterus scutellarius* Gyll., followed the introduction of *Anaphoidea nitens* into South Africa from Australia (Clausen, 1940).

The published host records confined the genus to species of weevils until Bakkendorf (1934) reared *A. conotracheli* (Girault) from the eggs of a Chrysomelid and also from the eggs of a Dytiscid, *Agabus* sp. An entirely new host record, which extends the host range of the genus to the Hemiptera (*Gerris* sp.) is introduced in this paper.

Recent collections made in California indicate that the genus is by no means an uncommon element in the faunal pattern of the pacific slope, and four new species are described herein.

Anaphoidea conferta Doutt, new species

Female. Length 0.55 mm. General body color very dark brown. Eyes fuscous. Trochanters, femora, tibiae, tarsi except metatarsal segments pallid testaceous; metatarsi darker. Forewings fumated except for clear area extending longitudinally through wing blade center, expanding distally. Another clear area beneath anterior portion of venation. Posterior wings fumated, slightly maculate.

Antennae inserted high on face. Structure as in Fig. 1. Scape strongly convex ventrally. Pedicel half length of scape. Funicle unusual for genus, segments short, subglobular to quadrate. Funicle segment 1 small, subglobular. Funicle 3 largest funicle segment, a third longer than wide, longer and broader than segment 2. Funicle segment 4 wider than long. Funicle segments 5, 6 slightly longer than wide, subequal to segment 3. Club longer than last 3 funicle segments considered together; nearly twice funicle width. Club divided, distal segment longer than basal segment.

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Head about as wide as long, without distinct sculpturing. Sparsely covered with setae, alveoli pallid, conspicuous.

Thorax normal for genus, mostly smooth; faint reticulation on parapsides and scutum. Faint striations on scutellum. Parapsidal sutures distinct.

Forewings as in Fig. 2. Relatively long considering body size. Longest marginal cilia somewhat longer than greatest wing width. About 10 lines of discal cilia at greatest wing width. Posterior wings with complete row of discal cilia near caudal margin. Similar row of 10-12 cilia near distal half of cephalic margin.

Trochanters two segmented, femora somewhat swollen. Foretibial spur not forked. Tarsal segments short, basitarsi barely longer than segment 2.

Abdomen ovoid, scarcely longer than wide, sparsely covered with long setae. Ovipositor not projecting beyond apex of abdomen, nor produced anteriorly beneath thorax.

Male. Unknown.

Described from single specimen mounted in gum damar. *Holotype*, female, collected by sweeping native vegetation at OAKVILLE, CALIFORNIA, on May 3, 1948 (R. L. Doutt).

Type deposited in collection of the Division of Biological Control, University of California.

The antennal characters, particularly the expanded scape and the subglobular funicle segments, serve readily to distinguish *conferta* from all other North American species.

Anaphoidea gerrisophaga Doutt, new species

Female. Length 0.50 mm. Head, thorax, abdomen, antennae of brown color. Legs, somewhat lighter. Margin of forewings fumated. Posterior wings fumated. Eyes deep red, nearly black. Ocelli red.

Antennae inserted high on face, general conformation as in Fig. 1. Scape, pedicel of equal width; funicle segment one small, normal for genus; segment 2 smaller than 3; segments 5, 6 somewhat longer and wider than segment 2. Club divided, segments subequal; club wider than scape.

Head about as wide as long; distinctly broader than thorax. Frontovortex reticulate, bearing 4 distinct, erect setae as viewed frontally; another pair of setae located near upper margin of each eye. Eyes slightly hispid. Ocelli large. Mandibles with 3 large, coarse, equal teeth.

Pronotum with 4 large curved setae. Mesoscutum with 2 prominent setae, each near anterior portion of respective parapsidal suture. Each axilla with single seta.

Forewings very narrow, fig. 2, unusual for genus, nearly parallel sided with no marked expansion distally. Tibial spur of foreleg bifid, basitarsus longer than following segment.

Abdomen long, oval, nearly twice longer than wide. Ovipositor barely projecting beyond apex of abdomen, not produced anteriorly beneath thorax.

Male. Unknown.

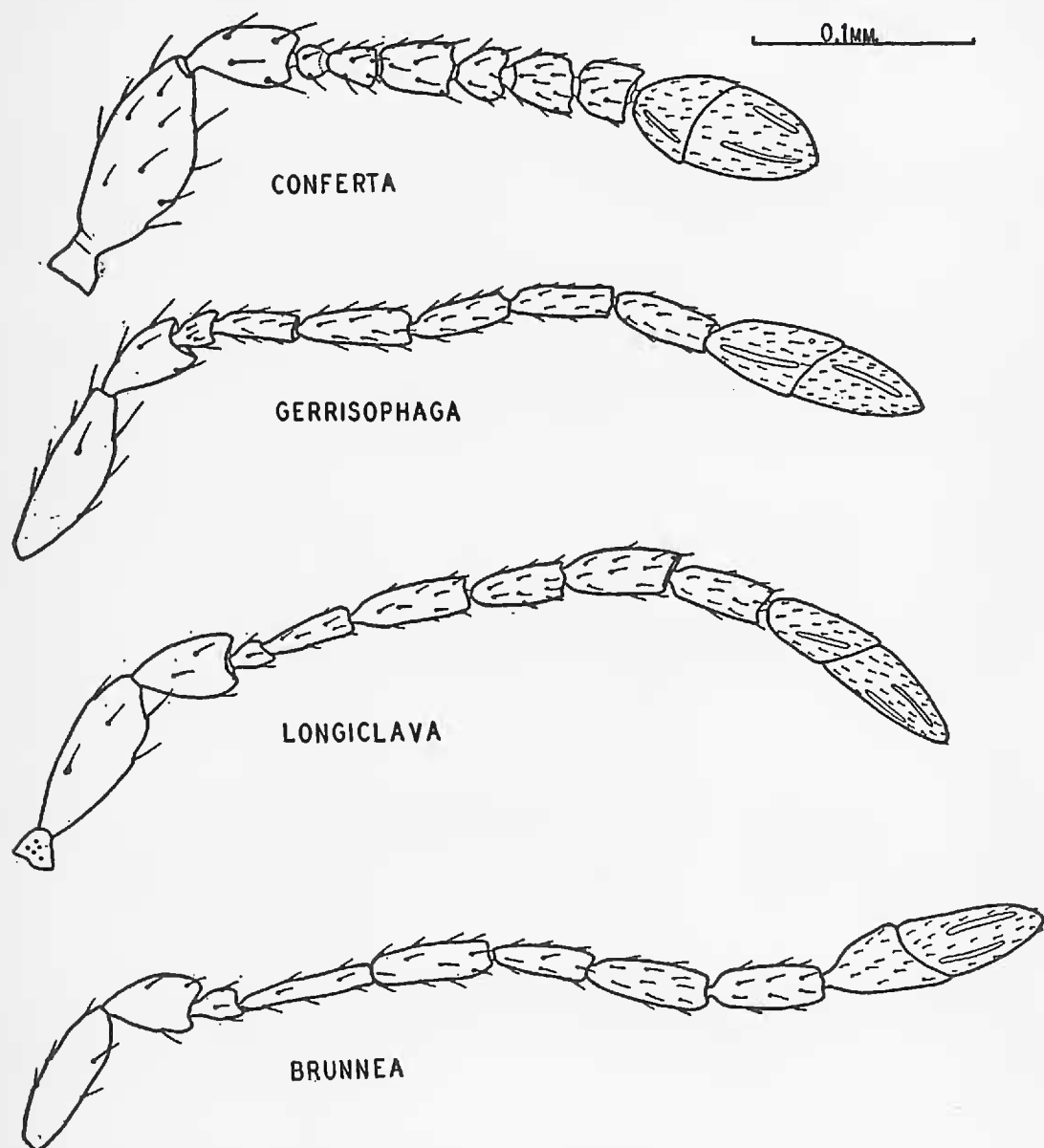


Figure 1. Antennae of new species of *Anaphoidea* from California.

Described from two specimens mounted in gum damar, on individual slides. *Holotype*, female, reared from eggs of *Gerris* sp., LAKE BRITTON, SHASTA COUNTY, CALIFORNIA, on June 29, 1947 (R. L. Usinger). *Paratype*, female, collected on window, El Cerrito, California, on June 11, 1948 (R. L. Douth).

Holotype and paratype in collection of Division of Biological Control, University of California.

This species is characterized by the very narrow forewings which are nearly parallel sided and lack any marked distal expansion. The prominent setae on thorax and frontovertex together with the large ocelli also serve to separate *gerrisophaga* from other American species. The *Gerris* host record is unique for the genus.

Anaphoidea longiclava Doutt, new species

Female. Length 0.45 mm. Color variation in specimens examined ranged from pallid brown to dark brown. Forewings mostly hyaline, slightly fumated in band near apex of venation and around distal wing margin. Eyes black, ocelli red.

Antennae inserted high on face, form as in Fig. 1. Scape convex ventrally, with slight reticulate sculpturing. Scape, pedicel of equal width. Funicle segment 1 small, segments 2, 4 subequal, smaller than segment 3. Segment 5 subequal to 3. Segment 6 of same length as segments 2, 4 but wider. Club elongate, divided, somewhat wider than funicle, distal segment longer than basal segment.

Head about as wide as long. Area posterior to ocelli with reticulate sculpturing, face and frontovertex nearly smooth.

Thorax normal for genus, nearly smooth but scutellum finely striate, scutum with faint reticulations anteriorly. Legs normal, foretibial spur curved, bifid. Basitarsi about equal in length to following segments, not distinctly longer. Forewings of moderate width, fig. 2. Posterior wings with sparse row of discal cilia near cephalic margin and more complete row near caudal margin.

Abdomen ovoid, distinctly shorter than thorax, dorsal surface with transverse rows of long conspicuous setae. Ovipositor slightly produced forward beneath thorax, ovipositor barely projecting from apex of abdomen.

Male. Unknown.

Described from two specimens mounted in gum damar on individual slides. *Holotype*, female, collected by sweeping native vegetation at MORGAN HILL, CALIFORNIA, on July 2, 1947 (R. L. Doutt). *Paratype*, female, collected by sweeping *Salix* sp. at Rio Nido, California, on May 28, 1947.

Holotype and paratype deposited in collection of Division of Biological Control, University of California.

The species *longiclava* is easily separated from *conotracheli* by the narrow club, the relatively more elongate funicle segments, and by lacking a marked projection of the ovipositor beneath the thorax.

Anaphoidea brunnea Doutt, new species

Female. Length 0.46 mm. Head, thorax, abdomen dark brown. Legs, antennae somewhat lighter. Forewings hyaline except for indistinct fumation near venation and along distal portion of cephalic margin. Posterior wings with slight maculation. Eyes, ocelli black.

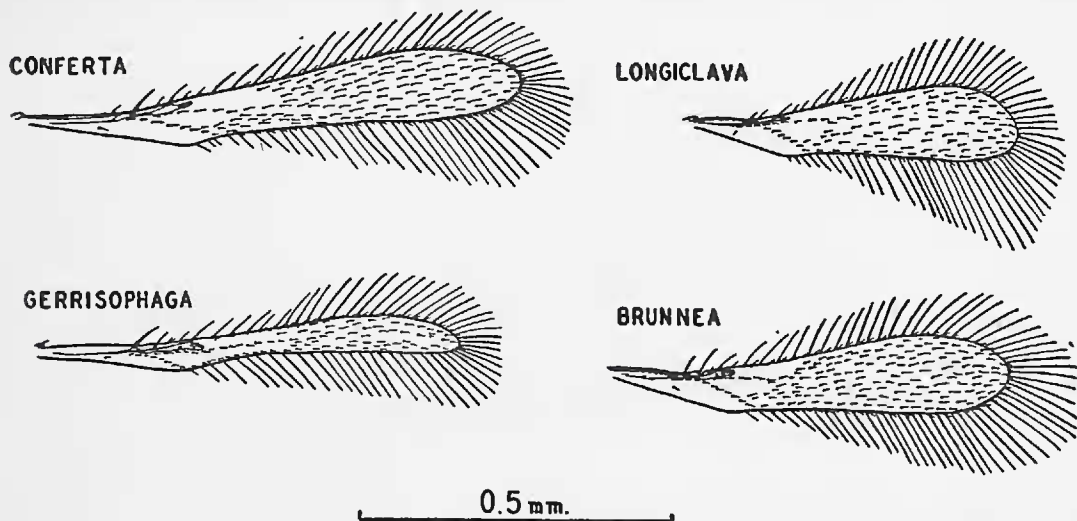


Figure 2. Wing outlines of new species of *Anaphoidea* from Calif.

Antennae inserted high on face. Scape not strongly convex ventrally, fig. 1. Pedicel slightly wider than scape, wider than funicle. Funicle segment 1 small, segment 2 longest, narrowest funicle segment. Funicle segment 4 distinctly smaller than 3 or 5. Segments 3, 5, 6 subequal. Club divided, widest antennal structure equal in length to funicle segments 5, 6, combined.

Head somewhat longer than wide. Thorax mostly smooth with barely perceptible striations. Fore femora more swollen than middle or hind femora. Spur of foretibia curved, bifid at tip. Basitarsus of foreleg distinctly longer than subsequent segment. Basitarsi of middle and posterior legs barely longer than subsequent segments. Forewings of moderate width, Fig. 2. Posterior wings with a row of discal cilia near distal portion of wing blade center; a sparse row of discal cilia near cephalic margin, another complete row on caudal margin.

Abdomen much shorter than thorax, ovoid. Ovipositor distinctly produced forward beneath thorax.

Male. Unknown.

Described from four specimens mounted in gum damar on individual slides. *Holotype*, female, and 2 female paratypes collected by sweeping native vegetation at FORESTVILLE, SONOMA COUNTY, CALIFORNIA, on April 16, 1947 (R. L. Doutt). One paratype female collected on window, El Cerrito, California, on March 6, 1948 (R. L. Doutt). Holotype and 2 paratypes deposited in collection of Division of Biological Control, University of California. One paratype deposited in U. S. National Museum.

In comparison with *calendrae* and *conotracheli*² this species is easily differentiated by the second funicle segment which is distinctly longer than segment 3. The forewings are relatively broader than those of *calendrae*.

KEY TO NORTH AMERICAN ANAPHOIDEA

FEMALES

1. Funicle segments except segment 1 distinctly longer than wide2
 - Funicle segments subglobular or quadrate, scape strongly convex ventrally*conferta* Doutt
2. Funicle segment 2 distinctly longer than segment 3.....3
 - Funicle segment 2 not distinctly longer than 3, may be equal to 34
3. Funicle segment 2 narrowest funicle segment, segment 4 smaller than all segments except 1. Species brown, moderate size*brunnea* Doutt
 - Funicle segment 2 no slenderer than other segments; cephalic tibiae yellow, body black, large species*sordidata* Girault³
4. Forewings quite narrow, more or less parallel sided without marked distal expansion, see fig. 2. Funicle 2 distinctly shorter than 3.....*gerrisophaga* Doutt
 - Forewings of moderate width, normal, if narrow then funicle 2 subequal to 3.....5
5. Basitarsi distinctly longer than following segments. Funicle segment 2 nearly equal to segment 3. Funicle segment 6 shorter than any segment except segment 1.....*calendrae* Gahan
 - Basitarsi not distinctly longer than following segments.....6
6. Ovipositor strongly produced anteriorly beneath thorax.....*conotracheli* (Girault)⁴
 - Ovipositor not strongly produced anteriorly beneath thorax.....*longiclava* Doutt

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- CLAUSEN, C. P. 1940. Entomophagous Insects. McGraw-Hill Book Co., Inc. 688 pp.

²The author wishes to acknowledge the generous loan of specimens for study by C. F. W. Muesebeck and A. B. Gahan of the U. S. National Museum.

³No specimens of *sordidata* examined, data in key taken from literature.

⁴Girault (Private publication) synonymized *pullicrura* Girault and *luna* Girault with *conotracheli* (Girault).

SEPSIDAE FROM THE AUSTRALASIAN REGION
(Diptera)

BY GEORGE C. STEYSKAL
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Two small collections of Sepsidae, made respectively by Clifford O. Berg and Jean Laffoon while they were engaged in malaria control work with the armed forces during the recent war, were generously turned over to the writer for determination, and an interesting lot of regional material belonging to the United States National Museum was also made available through the kindness of Curtis W. Sabrosky. Study of the material has brought to light two new species and one new subspecies, some synonymy, and some distributional data from little known areas.

KEY TO THE AUSTRALASIAN GENERA OF THE FAMILY SEPSIDAE

(Mesopleural bristle always present, although small in *Toxopoda* and *Perochaeta*. The Formosan genus *Myrmecosepsis* Kertész [1914, Ann. Mus. Nat. Hung. 12:244], not included below, was placed in the Chloropidae by its describer, but Hennig [1941: 131] has listed it with the Sepsidae; it is an almost wingless fly with long, erect, quill-like bristles on the dorsum).

- 1 (2). First and second basal cells of wing united; orbital bristles lacking; abdomen constricted behind second tergite; abdominal macrochaetae present
.....*Australosepsis* Malloch
- 2 (1). First and second basal cells separated3
- 3 (4) Thorax and abdomen dull black; abdomen with silvery pruinose bands; abdominal tergites lacking bristles and setae; humeral bristle minute; outer verticals (postoculars) lacking; one pair of DC*; lower margin of face projecting; middle femora of male bent in middle.....
.....*Toxopoda* Macquart
- 4 (3). Body usually shining, at least on parts of pleura; microsetae present, and often macrochaetae on abdomen5
- 5 (12). A pair of strong orbital bristles present; abdomen lacking macrochaetae except at tip, not or but slightly constricted behind second tergite; always only one DC; wings not spotted6

*The following abbreviations are used: DC - dorsocentral bristles of mesonotum; PV - postvertical bristles; *tp* - hind crossvein (*transversa posteriore*).

- 6 (7). PV lacking; one or two strong acrostichals behind the suture; humeral bristle present; preapical tibial bristles evident on middle and hind legs; male hind tibiae with dorsal slit or "cicatrix"*Xenosepsis* Malloch
- 7 (6). PV present; no strong acrostichals8
- 8 (9). Humeral bristle lacking; vibrissae duplicate; male fore tibiae with ventral emargination bearing in its middle a broad, scraper-like tooth*Decachaetophora* Duda
- 9 (8). Humeral present; only one well developed vibrissa10
- 10 (11). Wings distinctly gray; genal bristle strong; male hypopygium with forked lateral processes; fourth sternite tufted; female fore femora with a small anteroventral bristle at apical third*Parameroplus* Duda
- 11 (10). Wings hyaline or scarcely gray; genal bristle indistinct or lacking; male hypopygial processes simple, cruciate, with dense, long hairs and bristles on convex side; fore femora of female anteroventrally with four bristles (*M. beckeri*) or without bristles (*M. sauteri*)
.....*Meroplus* Rondani
- 12 (5). Orbital bristles lacking or very small; abdomen with or without preterminal macrochaetae, strongly constricted behind second tergite; usually two DC; wing with or without spots13
- 13 (14). Humerals and postoculars lacking; no wing spots; one DC; abdomen without macrochaetae; male with peculiar lateral processes on fourth sternite.....*Perochaeta* Duda
- 14 (13). Humerals and postoculars present; wing spot present at tip of second vein or apically or wing unmarked or marked basally only15
- 15 (16). Front, thorax, and legs with long hair; one DC; no abdominal macrochaetae*Lasionemopoda* Duda
- 16 (15). Front without hair; two DC (except in some species of *Sepsis*); wing spot and abdominal macrochaetae present or not17
- 17 (18). Abdomen of the male always, and often of the female also, with distinct macrochaetae; wing spot, if present, only in vicinity of vein 2*Sepsis* Fallén
- 18 (17). Abdomen of both sexes without distinct macrochaetae, although sometimes with somewhat stronger hairing of the tergal margins and with strong anal bristles; wing darkened along costa basally and sometimes with apical spot19
- 19 (20). Wings blackened only at base; sternopleura shining anteroventrally*Dicranosepsis* Duda
- 20 (19). Wings with spot at or near tip; sternopleura wholly or partly pruinose*Parapalaeosepsis* Duda

The description of *Xenosepsis sydneyensis* Malloch (1925: 315) is insufficient to distinguish it from the generitype of *Pseudomeroplius* Duda (*P. acrostichalis* Duda, 1926a:11), the only point of difference being in the number of strong acrostichals. The latter genus is therefore considered synonymous.

The writer cannot distinguish two categories of generic rank in *Parapalaeosepsis* and *Poeciloptero-sepsis*: he accordingly considers the latter synonymous on the basis of page priority (Duda 1926a:42 and 43 resp.). The generitype of *Parapalaeosepsis* is *Sepsis plebeia* De Meijere, the sole originally included species. The known species, together with two new species and one new subspecies, may be separated in the male sex as in the following table. The species are characteristically New Guinean. Those examined by the writer (*P. apicalis*, *P. basifera*, *P. laffooni*, and *P. mesopla*) have a single distinct, posteriorly curved bristle at the apex of each hind coxa, weak and short in *P. mesopla*, but strong in the others.

KEY TO MALES OF THE GENUS PARAPALAEOSEPSIS

- 1 (2). Middle basitarsi compressed, much broader than second tarsal joint and furnished with scales; claspers pointed (Amboina; Aru Is.; New Guinea)*P. basifera* Walker
- 2 (1). Middle basitarsi slender, cylindrical, not greater in diameter than second joint3
- 3 (4). Middle femora armed beneath with strong spinules projecting apicad at an angle of 45° from tuberculiform bases; wings with median cloud (New Guinea).....
.....*P. mesopla* Steyskal
- 4 (3). Middle femora not armed as above; wings without median cloud5
- 5 (6). Middle basitarsi partly black; crossveins as far apart as 1.5 times length of *tp*; a basally directed spinule present between the two longer apically directed ones posteroventer [Curran 1928:119]; Matema Id., Santa Cruz Group [Curran 1936: 31]; New Guinea; Lesser Sunda Is.; India; Ceylon; Formosa)*P. plebeia* De Meijere
- 6 (5). Middle basitarsi wholly yellowish, at most narrowly blackish at tip; crossveins not farther apart than length of *tp*7
- 7 (8). Fore tibiae distinctly emarginate medially; wing spot large, extending to or nearly to fourth vein; claspers spatulate at tip (New Guinea; Solomon Is.)
.....*P. apicalis* De Meijere
- 8 (7). Fore tibiae not emarginate; wing spot smaller9

- 9 (10). Wing spot large, extending from before tip of second vein to or shortly beyond third vein; claspers cultriform
*P. laffooni* Steyskal
- a. Wing spot filling out tip of submarginal cell, extending into first posterior cell (New Hebrides)
*P. laffooni laffooni*
- b. Wing spot roundish, not filling out tip of submarginal cell, extending only to third vein (New Caledonia)
*P. laffooni noumeae* Steyskal
- 10 (9). Wing spot consisting of a band from before middle of second costal section to beyond end of third vein; claspers ? (New Guinea)*P. limbata* De Meijere

In the course of the writer's work on the material listed below he came to certain conclusions regarding synonymy of some of the species. He was pleased to find that Hennig, who admirably figured some of the diagnostic parts, came to similar conclusions in his work on the Lesser Sunda Islands material (1941a). The writer has used the distinctions tabulated below in making his determinations in the genus *Sepsis*.

KEY TO THE AUSTRALASIAN SPECIES OF THE GENUS SEPSIS*

- 1 (10). Wing entirely without spot at end of second vein; pteropleura sometimes pruinose2
- 2 (5). Sternopleura anteroventrally strongly shining, not pruinose3
- 3 (4). Abdomen rugulose, dully shining; middle tibiae with a strong bristle dorsally at the apical sixth; pteropleura partly pruinose; hind femora with a distinct ventral bristle near base; male fore femora with a very strong tooth-like projection slightly apicad of middle bearing a few crowded stubby spinules, closely apicad of which is a secondary tubercle bearing only small and weak bristles; male fore tibiae simple, straight or sinuate, unarmed; male hind femora clavate
*S. indica* Wiedemann (*S. spectabilis* De Meijere)
- 4 (3). Abdomen scarcely rugulose transversely and strongly shining; middle tibiae at most with a small subapical bristle; pteropleura wholly shining; male fore femora with stout bristle at middle (mid-spine), immediately apicad of which is a rather broad tubercle bearing several stubby spinules; male fore tibiae sinuate below, armed with a curved row of spinules in basal half; male hind femora not clavate*S. lateralis* Wiedemann
- 5 (2) Sternopleura wholly pruinose6

*Some species of Walker and Brunetti remain unelucidated.